Data Validation Checklist
Inorganic Analyses

Project:	35TH Avenue Superfund Site	Project No:	15268508.20000
Laboratory:	TestAmerica – Savannah, GA	Job ID.:	680-87218-4
Method:	SW-846 6010C & 7471B	Associated Samples:	Refer to **Attachment A** (Sample Summary)
Matrix:	Soil	Samples Collected:	02/05/2013
Reviewer:	Nicole Lancaster	Date:	03/01/2013
Concurrence[1]:	Martha Meyers-Lee	Date:	03/27/2013

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample preservation requirements met? If pH of aqueous sample >2 and was not adjusted by laboratory prior to analysis, J- flag positive results and R- flag non-detect results.			✓		
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil/sediment samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Have any technical holding times, determined from date of collection to date of analysis, been exceeded? (Hg: ≤28 days, other metals: ≤6 months; Cr+6: ≤24 hours from extraction). If not, then J- flag positive results and R- flag non-detect aqueous results.		✓			
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?		✓		The MDL (0.59 mg/Kg) for arsenic is greater than the Resident Soil RSL (0.39 mg/Kg). A RSL does not exist for total chromium; however, the total chromium MDL (0.5 mg/Kg) is greater than the hexavalent chromium Resident Soil RSL (0.29 mg/Kg).	
8. Were method blank (MB) prepared at the appropriate frequency (one per 20 samples, batch, matrix, and level)?	✓				
9. Was a calibration blank (ICB/CCB) analyzed at the beginning, after every 10th sample, and at the end of each analytical run?	✓				

[1] Independent technical reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
10. Were target analytes detected in the method and/or calibration blanks?	✓			Target analytes were not detected in any method blank. Arsenic was detected at concentrations below the reporting limit during the SW-846 6010 analysis of calibration blanks.	
11. Were target analytes reported in equipment/rinsate blanks analyses above the DL?	✓			According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank (020513-RB-Bowls + Spoons (680-87170-29)) was collected for the week of February 4, 2013. Target analytes were not detected during the EPA Methods 200.7 and 245.1 analyses of rinsate blank 020513-RB-Bowls + Spoons (680-87170-29), which was collected on February 5, 2013 and results reported under Job 680-87170-3.	
12. Were contaminants detected in samples below the blank contamination action level? o If blank result > RL, • Flag sample results ≤ RL with a U • Flag positive sample results > RL and ≤10x blank result , as J+ positive results o If blank result ≤RL, • Flag sample results ≤ RL with a U • Flag positive sample results > RL and ≤10x blank result , as J+ positive results		✓		Qualification of data due to the presence of calibration blank contamination is not warranted, as all blank results were significantly less than that detected in samples.	
13. Are there negative laboratory blank results with the absolute value ≤RL? If yes, then flag positive and non-detect sample results that are < 10x absolute blank value as J- and UJ, respectively.		✓			
14. Was a field duplicate analyzed?		✓			
15. Was precision deemed acceptable as defined by the project plans?			✓		
16. Were initial and continuing calibration standards analyzed at the lab/project-specified frequency for each instrument? o 6010C: • ICAL: Blank and one standard • ICV initially, and CCV every 10th sample and at the end of the analytical run • Lower Limit of Quantitation Check Sample (CRI) to be analyzed after establishing lower laboratory reporting limits and as needed	✓			• 6010C: 02/12/13. One blank and one standard initially. ICV initially, and CCV every 10 samples and at end of run. CRI after initial calibration blank analysis. • 7471B: 02/09/13. 6-Point ICAL. ICV initially, CCV every 10 samples and at end of run. CRI after initial calibration blank analysis.	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
○ 7471B: • ICAL: Blank and five standards • ICV initially, and CCV every 10th sample and at the end of the analytical run					
17. Were these results within lab/project specifications? ○ 6010C • ICV/CCV (Criteria: 90-110%R): ▪ If %R <75, then J- flag positive results and R-flag non-detects ▪ If 75-89%R, then J- flag positive results and UJ flag non-detects ▪ If 111-125%R, then J flag positive results ▪ If >125%R, then J+ flag positive results ▪ If >160%R, then R flag positive results • CRI (Method: 70-130%R, Laboratory: 50-150%R; Project: 50-150%R for Sb, Pb, and Tl, and 70-130%R for all other analytes): ▪ If CRI %R <50 (<30% for Sb, Pb, TL), then R flag results ≤ 2x RL and J flag positive results >2x RL ▪ If CRI %R 50-69% (30-49% for Sb, Pb, TL), then J- and UJ flag positive results <2x RL and ND, respectively ▪ If CRI %R >130% and ≤180% (>150%, but ≤200% for Sb, Pb, TL), then J+ flag positive results <2x RL ▪ If CRI %R >180% (>200% for Sb, Pb, TL), then R flag positive results ○ 7471B • ICV/CCV (Criteria: 80-120%R): ▪ If correlation coefficients <0.995, then J and UJ flag positive and non-detect results. ▪ If %R <65, then J- flag positive results and R-flag non-detects ▪ If 65-79%R, then J- flag positive results and UJ flag non-detects ▪ If 121-135%R, then J flag positive results ▪ If >135%R, then J+ flag positive results ▪ If >170%R, then R flag positive results • CRI (Method: Not required, Laboratory: 50-150%R, Project: 70-130%R): ▪ If CRI %R <50, then R flag results ≤ 2x RL and J flag positive results >2x RL ▪ If CRI %R 50-69%, then J- and UJ flag positive results <2x RL and ND, respectively ▪ If CRI %R >130% and ≤180%, then J+ flag positive	✓			Mercury correlation coefficients (raw data): ICAL of 02/06/13: 0.9999766 (page 205)	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
results <2x RL ▪ If CRI %R >180%, then R flag positive result					
18. Was the interference check sample (ICS) analyzed at the beginning of each ICP analytical run?	✓				
19. Are ICS recoveries within 80-120% of the true value? If not, qualify data as follows when native Al, Fe, Ca, and Mg sample concentrations are equal to or greater than the ICS spiking level: o If >120%R (or >true value plus 2x CRQL), J+ flag positive results o If 50-79%R (or less than true value – 2x the CRQL), J- flag positive results and UJ flag non-detects o If <50%R, J- flag positive results and R-flag non-detects	✓				
20. Was a LCS analyzed for each preparation batch (one per 20 samples per matrix and level)?	✓				
21. Did LCS recoveries meet method/laboratory/project (80-120%R) specifications? o Soil: • LCS result > Upper control limit (UCL): J+ flag positive results • LCS result < Lower control limit (LCL): J- flag positive results and UJ flag non-detects o Aqueous: • If <50%R, then J- and R flag positive and ND results, respectively • If 50-LCL%R, J- and UJ flag positive and ND results, respectively • >UCL: J+ Flag positive results • >150%R: R Flag results	✓				
22. Was the RPD between LCS and LCSD results within method/laboratory /project control limits (≤20%RPD)? If not, J and UJ flag positive and non-detect results, respectively			✓	LCS Only	
23. Was a Matrix Spike (MS) and Matrix Spike Duplicate (MSD) analyzed once per preparation batch?	✓				
24. Is the MS and MSD parent sample a project-specific sample?	✓	✓		• 6010C, Prep Batch 265663: 680-87218-3 (CV0800A-CS-SP), MS/MSD • 7471B: o Prep Batch 265443: 680-87218-3 (CV0800A-CS-SP), MS/MSD o Prep Batch 265507: 680-87218-47 (CV0439B-	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				CS, MS/MSD	
25. Was a post-digestion spike (PDS) analysis conducted when MS and/or MSD results did not meet control limits (Note: PDS is not required for silver, mercury, or hexavalent chromium)?	✓			6010C: 680-87218-3 (CV0800A-CS-SP)	
26. For all analytes with sample concentration < 4 x spike concentration, are spike recoveries within method (6010C: 75-125%R MS/MSD and 80-120%R PDS; 7471B: 80-120%R MS/MSD; 7196A: 85-115%R MS), laboratory (MS, MSD, and PDS: 75-125%R for 6010C/7471 (as applicable) and 80-120%R for 7196), and project (as noted below) specifications? *Only QC results for project samples that are reported under this Job ID are evaluated.* If not, ○ 6010C: • If MS %R <30 and PDS %R <75, then J- and R Flag positive and ND results, respectively • If MS %R <30 and PDS %R >75, then J flag positive and UJ flag non-detect results • If MS and MSD %R 30-74 and PDS%R <75, then J- flag positive and UJ flag non-detect results • If MS and MSD %R 30-74 and PDS%R ≥75, then J flag positive and UJ flag non-detect results • If MS, MSD, and PDS %R >125, J+ flag positive results • If MS and MSD %R >125 and PDS %R ≤125, then J flag positive results • If MS and MSD %R <30 and no PDS, then J- flag positive and R-flag non-detect results • If MS and MSD %R 30-74 and no PDS, then J- and UJ flag positive and non-detect results, respectively • If MS and MSD %R >125 and no PDS, then J+ flag positive results ○ 7471B/7196: • If MS %R <30, then J- and R Flag positive and ND results, respectively • If MS and MSD %R 30-LCL, then J- flag positive and UJ flag non-detect results • If MS and MSD %R >UCL, then J+ flag positive results		✓		• CV0800A-CS-SP (680-87218-3): ○ 6010C ▪ Arsenic MS and MSD %R is 60 and 87(75-125), respectively. PDS recovery met control limits. Qualification of data is not warranted, because the recovery of the MSD met laboratory control limits. ▪ Barium MS and MSD %R is -913 and -2096 (75-125), respectively. An evaluation of interference based on MS and MSD results is not possible, because the native sample concentration is more than four times greater than the MS/MSD spiking concentration. PDS recovery met control limits. ▪ Cadmium MS and MSD %R is 73 and 59 (75-125), respectively. PDS recovery met control limits. J Flag result, because MS and MSD %R fell between 30 and 74 of the true value and PDS %R ≥75. ▪ Chromium MS and MSD %R is -53 and 314 (75-125), respectively. An evaluation of interference based on MS and MSD results is not possible, because the native sample concentration is more than four times greater than the MS/MSD spiking concentration. PDS recovery met control limits. ▪ Lead MS and MSD %R is 778 and -216 (75-125), respectively. PDS recovery met control limits. An evaluation of interference is not possible, because the native sample concentration is more than four times greater than the MS/MSD/PDS spiking concentrations. ○ 7471B: Mercury MS and MSD %R 264 and -112 (80-120), respectively. An evaluation of	J

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				interference is not possible, because the native sample concentration is more than four times greater than the spiking concentration.	
27. Were laboratory/project (≤20%RPD) criteria met for precision during the MS and MSD analysis? *Only QC results for project samples that are reported under this Job ID are evaluated.* ○ If RPD >20%, J and UJ flag positive and non-detect results.		✓		CV0800A-CS-SP (680-87218-3): • Barium @ 28%RPD (≤20) • Chromium @ 43%RPD (≤20) • Mercury @ 29%RPD (≤20) Qualification of data is not warranted, because the native sample concentration is more than four times greater than the MS and MSD spiking concentrations.	
28. Was a serial dilution conducted for 6010C/EPA 200.7?	✓			6010C: 680-87218-3 (CV0800A-CS-SP)	
29. Is the serial dilution parent sample a project-specific sample?	✓				
30. Is the percent difference between the serially diluted result and undiluted result less 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples that are reported under this Job ID are evaluated.* ○ If %D >10, J and UJ flag positive and non-detect results, respectively.	✓				
31. Was a laboratory duplicate analyzed?		✓			
32. Was the lab duplicate analysis conducted on a project-specific sample?			✓		
33. Were criteria for laboratory/project precision met? *Only QC results for project samples that are reported under this Job ID are evaluated.* ○ If RPD values >20% (35% for soil/sediment) or absolute difference > RL (2x RL for soil/sediment), then J and UJ flag positive and non-detect results, respectively			✓		
34. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to **Attachment B** (Case Narrative)	

Comments: The data validation was conducted in accordance with the *Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1* (OTIE, October 2012). The data review process was modeled after the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review* (EPA 540-R-04-004, October 2004). Sample results have been qualified based on the results of the data review process (**Attachment C**). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment

Data Validation Checklist (Continued)

DV Flag Definitions:

J-	The result is an estimated quantity, but the result may be biased low.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
UJ	The analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.

ATTACHMENT A

SAMPLE SUMMARY

COVER PAGE
METALS

Lab Name: TestAmerica Savannah Job Number: 680-87218-4

SDG No.: 68087218-4

Project: 35th Avenue Superfund Site

Client Sample ID	Lab Sample ID
CV0800A-CS-SP	680-87218-3
CV0966B-CS-SP	680-87218-5
CV0748I-CS	680-87218-21
CV0439B-CS	680-87218-37
CV0832B-CS	680-87218-42
CV0439B-CS (sieve)	680-87218-47
CV0748I-CS (sieve)	680-87218-48
CV0800A-CS-SP (sieve)	680-87218-49
CV0832B-CS (sieve)	680-87218-50
CV0966B-CS-SP (sieve)	680-87218-51

Comments:

ATTACHMENT B

CASE NARRATIVE

CASE NARRATIVE

Client: Oneida Total Integrated Enterprises LLC

Project: 35th Avenue Superfund Site

Report Number: 680-87218-4

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 02/07/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.6 C.

METALS (ICP)

Samples CV0800A-CS-SP (680-87218-3), CV0966B-CS-SP (680-87218-5), CV0748I-CS (680-87218-21), CV0439B-CS (680-87218-37), CV0832B-CS (680-87218-42), CV0439B-CS (sieve) (680-87218-47), CV0748I-CS (sieve) (680-87218-48), CV0800A-CS-SP (sieve) (680-87218-49), CV0832B-CS (sieve) (680-87218-50) and CV0966B-CS-SP (sieve) (680-87218-51) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/08/2013 and analyzed on 02/12/2013.

Several analytes recovered outside the recovery criteria for the MS/MSD of sample CV0800A-CS-SP (680-87218-3) in batch 680-266076. Lead failed the recovery criteria high. Also, Barium and Chromium exceeded the rpd limit.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

TOTAL MERCURY

Samples CV0800A-CS-SP (680-87218-3), CV0966B-CS-SP (680-87218-5), CV0748I-CS (680-87218-21), CV0439B-CS (680-87218-37), CV0832B-CS (680-87218-42), CV0439B-CS (sieve) (680-87218-47), CV0748I-CS (sieve) (680-87218-48), CV0800A-CS-SP (sieve) (680-87218-49), CV0832B-CS (sieve) (680-87218-50) and CV0966B-CS-SP (sieve) (680-87218-51) were analyzed for total mercury in accordance with EPA SW-846 Method 7471B. The samples were prepared on 02/07/2013 and analyzed on 02/09/2013.

Samples CV0800A-CS-SP (680-87218-3)[10X], CV0800A-CS-SP (sieve) (680-87218-49)[10X] and CV0832B-CS (sieve) (680-87218-50) [5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Mercury recovered outside the recovery criteria for the MS/MSD of sample CV0800A-CS-SP (680-87218-3) in batch 680-265838. Mercury exceeded the rpd limit.

No other difficulties were encountered during the mercury analyses.

All other quality control parameters were within the acceptance limits.

ATTACHMENT C

QUALIFIED SAMPLE RESULTS

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0800A-CS-SP
Lab Sample ID: 680-87218-3
Lab Name: TestAmerica Savannah
Job No.: 680-87218-4
SDG ID.: 68087218-4
Matrix: Solid
Date Sampled: 02/05/2013 09:40
Reporting Basis: DRY
Date Received: 02/07/2013 10:42
% Solids: 76.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	41	2.5	0.73	mg/Kg			1	6010C
7440-39-3	Barium	700	1.2	0.37	mg/Kg			1	6010C
7440-43-9	Cadmium	5.8	0.62	0.12	mg/Kg		J	1	6010C
7440-47-3	Chromium	90	1.2	0.62	mg/Kg			1	6010C
7439-92-1	Lead	500	1.2	0.65	mg/Kg			1	6010C
7782-49-2	Selenium	1.3	3.1	1.2	mg/Kg	J		1	6010C
7440-22-4	Silver	0.58	1.2	0.12	mg/Kg	J		1	6010C
7439-97-6	Mercury	1.5	0.23	0.096	mg/Kg			10	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0966B-CS-SP
Lab Sample ID: 680-87218-5
Lab Name: TestAmerica Savannah
Job No.: 680-87218-4
SDG ID.: 68087218-4
Matrix: Solid
Date Sampled: 02/05/2013 09:36
Reporting Basis: DRY
Date Received: 02/07/2013 10:42
% Solids: 58.1

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	21	3.2	0.96	mg/Kg			1	6010C
7440-39-3	Barium	310	1.6	0.49	mg/Kg			1	6010C
7440-43-9	Cadmium	2.3	0.81	0.16	mg/Kg			1	6010C
7440-47-3	Chromium	63	1.6	0.81	mg/Kg			1	6010C
7439-92-1	Lead	370	1.6	0.86	mg/Kg			1	6010C
7782-49-2	Selenium	4.1	4.1	1.6	mg/Kg	U		1	6010C
7440-22-4	Silver	0.40	1.6	0.16	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.34	0.030	0.012	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0748I-CS
Lab Sample ID: 680-87218-21
Lab Name: TestAmerica Savannah
Job No.: 680-87218-4
SDG ID.: 68087218-4
Matrix: Solid
Date Sampled: 02/05/2013 13:00
Reporting Basis: DRY
Date Received: 02/07/2013 10:42
% Solids: 78.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	25	2.5	0.74	mg/Kg			1	6010C
7440-39-3	Barium	210	1.3	0.38	mg/Kg			1	6010C
7440-43-9	Cadmium	1.7	0.63	0.13	mg/Kg			1	6010C
7440-47-3	Chromium	69	1.3	0.63	mg/Kg			1	6010C
7439-92-1	Lead	270	1.3	0.67	mg/Kg			1	6010C
7782-49-2	Selenium	3.2	3.2	1.3	mg/Kg	U		1	6010C
7440-22-4	Silver	0.39	1.3	0.12	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.27	0.022	0.0090	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0439B-CS
Lab Sample ID: 680-87218-37
Lab Name: TestAmerica Savannah
Job No.: 680-87218-4
SDG ID.: 68087218-4
Matrix: Solid
Date Sampled: 02/05/2013 12:37
Reporting Basis: DRY
Date Received: 02/07/2013 10:42
% Solids: 87.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	20	2.3	0.68	mg/Kg			1	6010C
7440-39-3	Barium	660	1.1	0.34	mg/Kg			1	6010C
7440-43-9	Cadmium	14	0.57	0.11	mg/Kg			1	6010C
7440-47-3	Chromium	130	1.1	0.57	mg/Kg			1	6010C
7439-92-1	Lead	430	1.1	0.61	mg/Kg			1	6010C
7782-49-2	Selenium	1.4	2.9	1.1	mg/Kg	J		1	6010C
7440-22-4	Silver	0.93	1.1	0.11	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.47	0.022	0.0089	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0832B-CS
Lab Sample ID: 680-87218-42
Lab Name: TestAmerica Savannah
Job No.: 680-87218-4
SDG ID.: 68087218-4
Matrix: Solid
Date Sampled: 02/05/2013 12:59
Reporting Basis: DRY
Date Received: 02/07/2013 10:42
% Solids: 82.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	27	2.2	0.66	mg/Kg			1	6010C
7440-39-3	Barium	520	1.1	0.33	mg/Kg			1	6010C
7440-43-9	Cadmium	2.7	0.56	0.11	mg/Kg			1	6010C
7440-47-3	Chromium	47	1.1	0.56	mg/Kg			1	6010C
7439-92-1	Lead	330	1.1	0.59	mg/Kg			1	6010C
7782-49-2	Selenium	2.8	2.8	1.1	mg/Kg	U		1	6010C
7440-22-4	Silver	0.69	1.1	0.11	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.33	0.021	0.0084	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0439B-CS (sieve) Lab Sample ID: 680-87218-47

Lab Name: TestAmerica Savannah Job No.: 680-87218-4

SDG ID.: 68087218-4

Matrix: Solid Date Sampled: 02/05/2013 12:37

Reporting Basis: DRY Date Received: 02/07/2013 10:42

% Solids: 66.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	20	2.8	0.83	mg/Kg			1	6010C
7440-39-3	Barium	820	1.4	0.42	mg/Kg			1	6010C
7440-43-9	Cadmium	21	0.70	0.14	mg/Kg			1	6010C
7440-47-3	Chromium	120	1.4	0.70	mg/Kg			1	6010C
7439-92-1	Lead	650	1.4	0.74	mg/Kg			1	6010C
7782-49-2	Selenium	3.5	3.5	1.4	mg/Kg	U		1	6010C
7440-22-4	Silver	1.3	1.4	0.13	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.23	0.029	0.012	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0748I-CS (sieve) Lab Sample ID: 680-87218-48

Lab Name: TestAmerica Savannah Job No.: 680-87218-4

SDG ID.: 68087218-4

Matrix: Solid Date Sampled: 02/05/2013 13:00

Reporting Basis: DRY Date Received: 02/07/2013 10:42

% Solids: 76.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	21	2.2	0.66	mg/Kg			1	6010C
7440-39-3	Barium	200	1.1	0.33	mg/Kg			1	6010C
7440-43-9	Cadmium	1.9	0.56	0.11	mg/Kg			1	6010C
7440-47-3	Chromium	51	1.1	0.56	mg/Kg			1	6010C
7439-92-1	Lead	300	1.1	0.59	mg/Kg			1	6010C
7782-49-2	Selenium	2.8	2.8	1.1	mg/Kg	U		1	6010C
7440-22-4	Silver	0.48	1.1	0.11	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.29	0.024	0.0098	mg/Kg			1	7471B

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0800A-CS-SP (sieve) Lab Sample ID: 680-87218-49

Lab Name: TestAmerica Savannah Job No.: 680-87218-4

SDG ID.: 68087218-4

Matrix: Solid Date Sampled: 02/05/2013 09:40

Reporting Basis: DRY Date Received: 02/07/2013 10:42

% Solids: 75.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	36	2.6	0.76	mg/Kg			1	6010C
7440-39-3	Barium	620	1.3	0.39	mg/Kg			1	6010C
7440-43-9	Cadmium	5.2	0.64	0.13	mg/Kg			1	6010C
7440-47-3	Chromium	70	1.3	0.64	mg/Kg			1	6010C
7439-92-1	Lead	620	1.3	0.68	mg/Kg			1	6010C
7782-49-2	Selenium	2.0	3.2	1.3	mg/Kg	J		1	6010C
7440-22-4	Silver	0.61	1.3	0.12	mg/Kg	J		1	6010C
7439-97-6	Mercury	1.6	0.23	0.094	mg/Kg			10	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0832B-CS (sieve) Lab Sample ID: 680-87218-50

Lab Name: TestAmerica Savannah Job No.: 680-87218-4

SDG ID.: 68087218-4

Matrix: Solid Date Sampled: 02/05/2013 12:59

Reporting Basis: DRY Date Received: 02/07/2013 10:42

% Solids: 80.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	24	2.4	0.71	mg/Kg			1	6010C
7440-39-3	Barium	430	1.2	0.36	mg/Kg			1	6010C
7440-43-9	Cadmium	4.0	0.60	0.12	mg/Kg			1	6010C
7440-47-3	Chromium	52	1.2	0.60	mg/Kg			1	6010C
7439-92-1	Lead	2900	1.2	0.64	mg/Kg			1	6010C
7782-49-2	Selenium	3.0	3.0	1.2	mg/Kg	U		1	6010C
7440-22-4	Silver	0.78	1.2	0.12	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.67	0.12	0.048	mg/Kg			5	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0966B-CS-SP (sieve)
Lab Sample ID: 680-87218-51
Lab Name: TestAmerica Savannah
Job No.: 680-87218-4
SDG ID.: 68087218-4
Matrix: Solid
Date Sampled: 02/05/2013 09:36
Reporting Basis: DRY
Date Received: 02/07/2013 10:42
% Solids: 77.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	27	2.3	0.69	mg/Kg			1	6010C
7440-39-3	Barium	380	1.2	0.35	mg/Kg			1	6010C
7440-43-9	Cadmium	3.2	0.59	0.12	mg/Kg			1	6010C
7440-47-3	Chromium	74	1.2	0.59	mg/Kg			1	6010C
7439-92-1	Lead	460	1.2	0.62	mg/Kg			1	6010C
7782-49-2	Selenium	1.3	2.9	1.2	mg/Kg	J		1	6010C
7440-22-4	Silver	0.63	1.2	0.11	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.35	0.023	0.0094	mg/Kg			1	7471B